

SIEMENS

MOBILETT Plus HP

SP

Wiring Diagram

From Serial No. 30900

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Register 6

Print No.: SPR8-220.051.03.01.02

Replaces: n.a.

English

Doc. Gen. Date: 04.02

66 30 706

Chapter	Page	Revision
All	All	01

Document revision level

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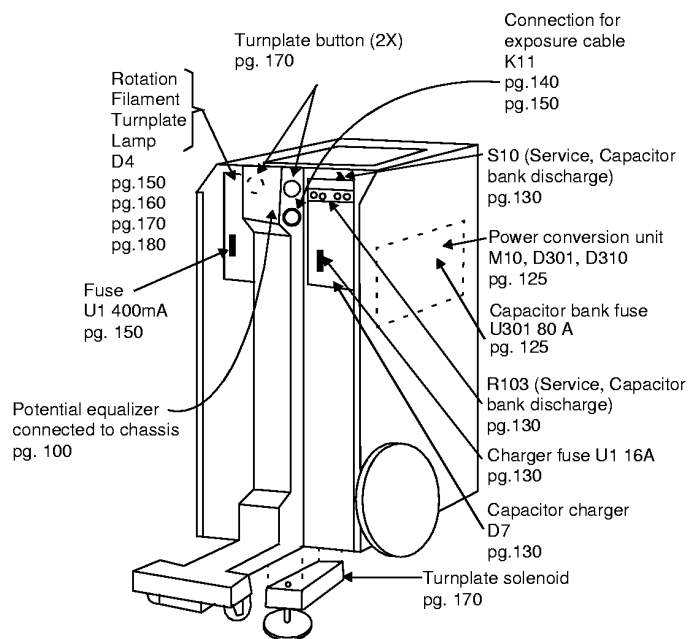
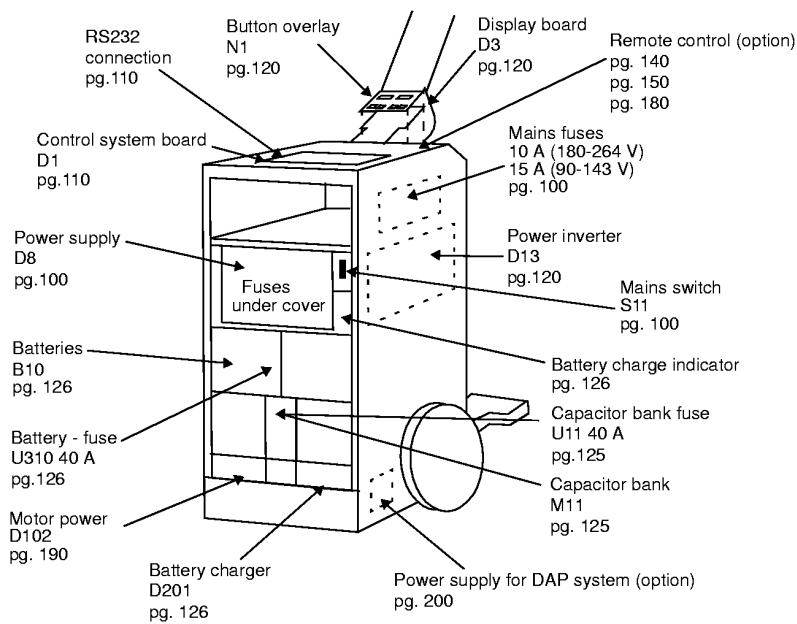
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Functional diagrams

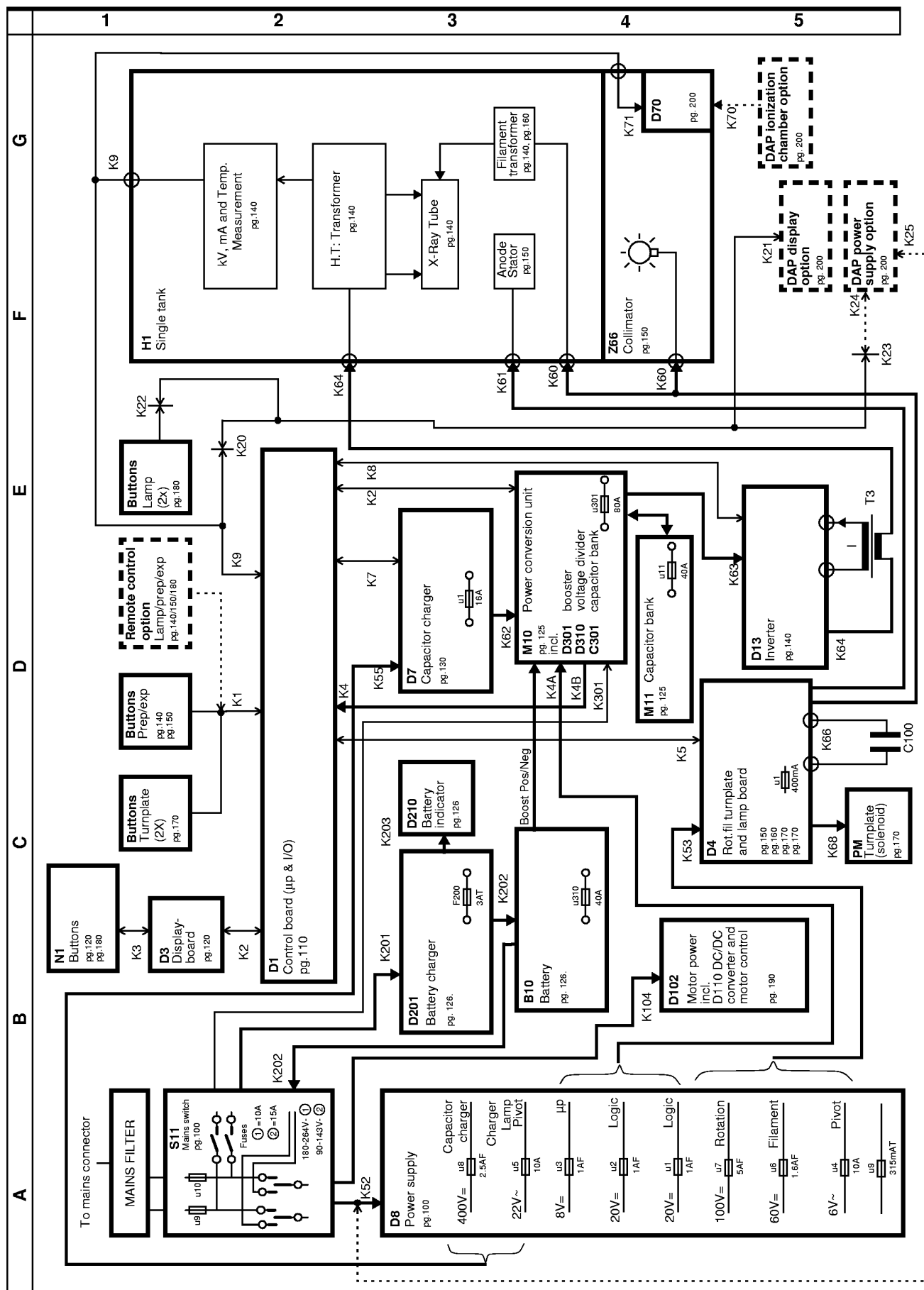
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Notes on block diagram

- * The block diagram supports troubleshooting on board level, not on component level.
 - * The function on D1, control board, described in sheet with number above 110 shows the common function of hard- and software.
- The circuits are only models and do not necessarily exist physically.



Block diagram system-cable-fuses



List of boards

No.	Name	Part No	Type No	On sheet
D1	Control board	6447531	X037E	20, 100, 110, 120, 130, 140, 150, 160, 170, 180
D3	Display board	6167170	X037E	20, 100, 110, 120, 180
D4	Rotation, inverter, filament, lamp and turnplate board *	6077106	X037E	20, 100, 110, 150, 160, 170, 180
D7	Capacitor charger *	6077247	X037E	20, 100, 110, 130
D8	Power supply *	6077353	X037E	20, 100, 130, 150, 160, 170, 180
D13	HT-inverter *	6508654	X037E	20, 100, 110, 140
D102	Motor power *	6508571	X037E	20, 190
D110	DC/DC converter *	6447390	X037E	20, 190
D201	Battery charger *	6508522	X037E	20, 126
D210	Battery indicator	6447424	X037E	20, 126
D301	Booster	6451525	X037E	20, 100, 110, 125
D310	Voltage divider	6447309	X037E	20, 125
---	Remote control PCB board, option	6564202	X037E	20, 100, 110, 140, 150, 180

* Complete unit with heat sink

Measuring points

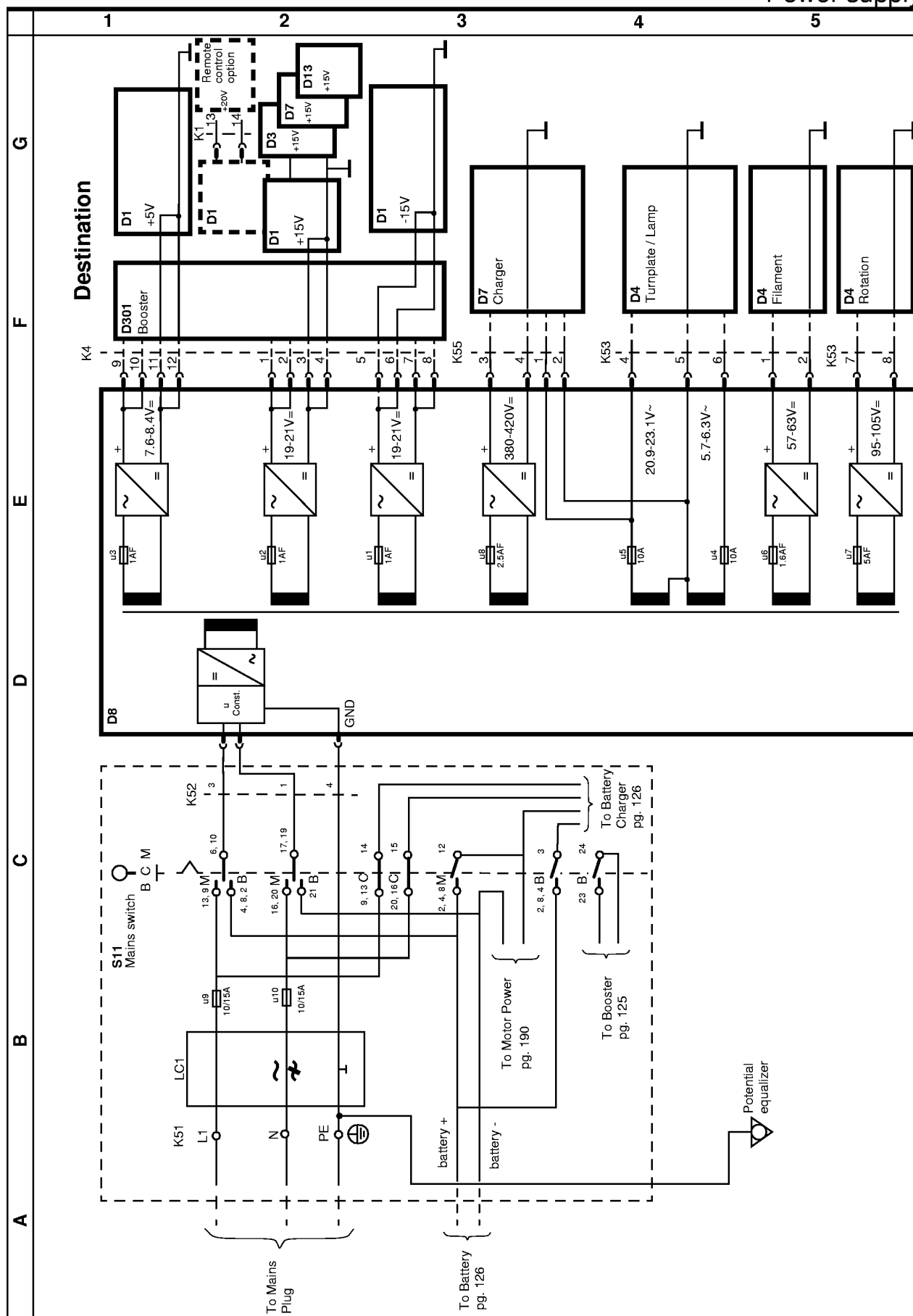
Measuring points

Name	PC-board	Page	Function
CAPNEG	D7	130	Negative side of capacitor bank
CAPPOS	D7	130	Positive side of capacitor bank
CAPVOL	D1	130	Voltage level in capacitor bank
CHARGEHIGH ²	D7	130	Charge with high power level
CHARGELOW ²	D7	130	Charge with low power level
CLEAROV ²	D7	130	Reset overvoltage blocking
DISCHARGE ²	D7	130	Discharge capacitor bank
FIL	D4	160	Trigger pulses to filament booster
FILVAL	D1	160	Current through filament transformer
FILVOL	D1	160	Supply voltage for filament heating
HT	D1	140	Tube voltage
HTD	D1	140	High tension asymmetry
HTNEG	D1	140	Negative part of high tension
HTPEAK	D1	140	Tube voltage peak value
HTPOS	D1	140	Positive part of high tension
INVA	D13	140	Trigger pulses to inverter
INVB	D13	140	Trigger pulses to inverter
LAMP ON	D4	180	Collimator lamp control
MAPOS	D1	140	Current through high tension unit. One part corresponds to the real tube current.
PIVOT ON	D4	170	Push turnplate down
PIVOT HOLD	D4	170	Hold turnplate down
RESET ²	D1	110	Reset signal for up
ROT	D1	150	Tube anode speed
ROTA	D4	150	Trigger pulses to inverter for anode speed
ROTB	D4	150	Trigger pulses to inverter for anode speed
ROT_VAL	D4	150	Tube anode speed

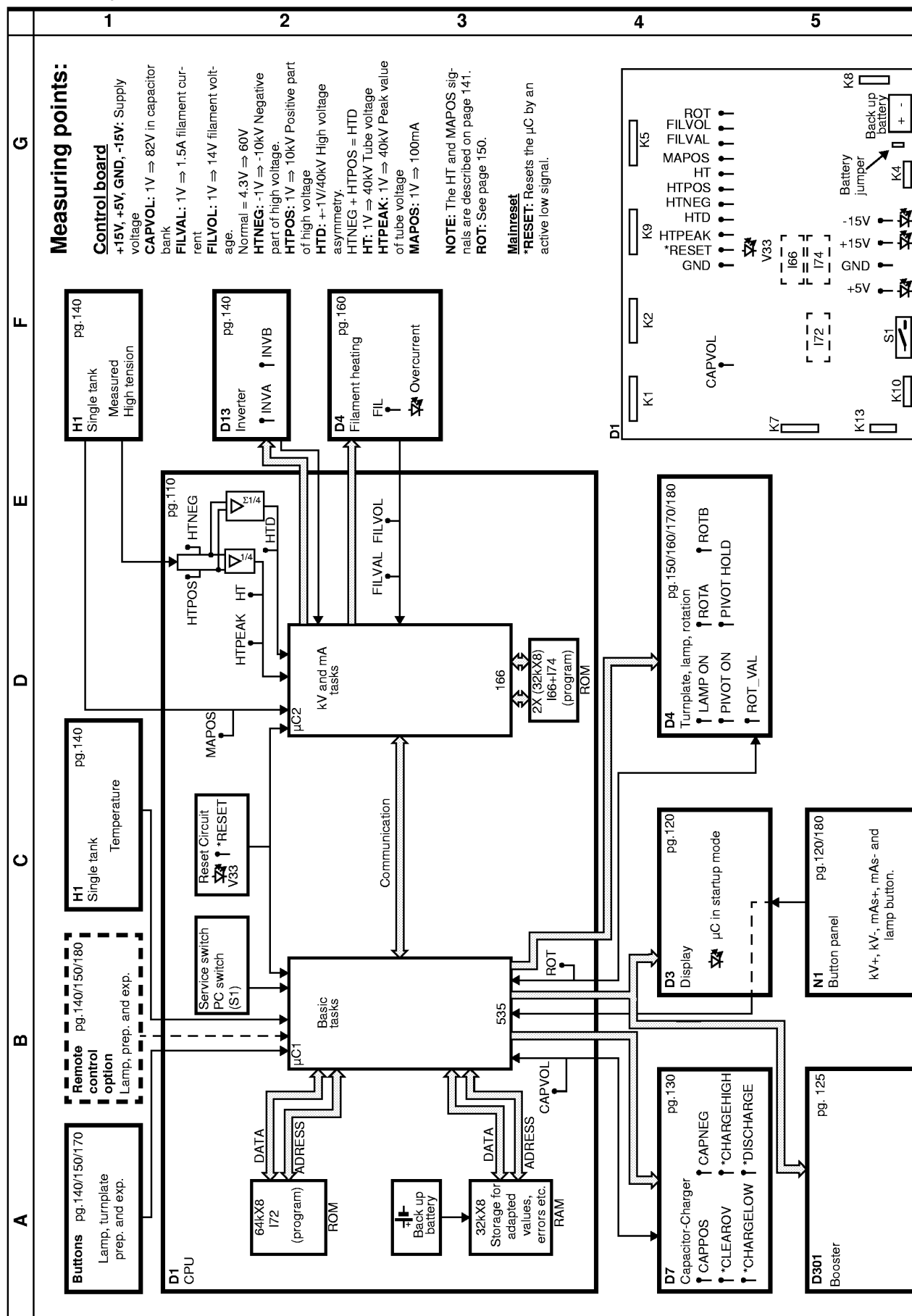
Power	PC-board	Page	Function
+5V, +15V, -15V, GND	D1	110	---
+5V, GND	D3	120	---
+5V, +15V, GND	D4	150	---
100VDC, 100VDCRET ¹	D4	150	---
60VDC, 60VDCRET ¹	D4	160	---
+5V, +15V, GND	D7	130	---
+5V, +15V, GND	D13	140	---
+5V, +15V, +16.5, -15V, GND, TP_bat	D301	125	---

Notes!

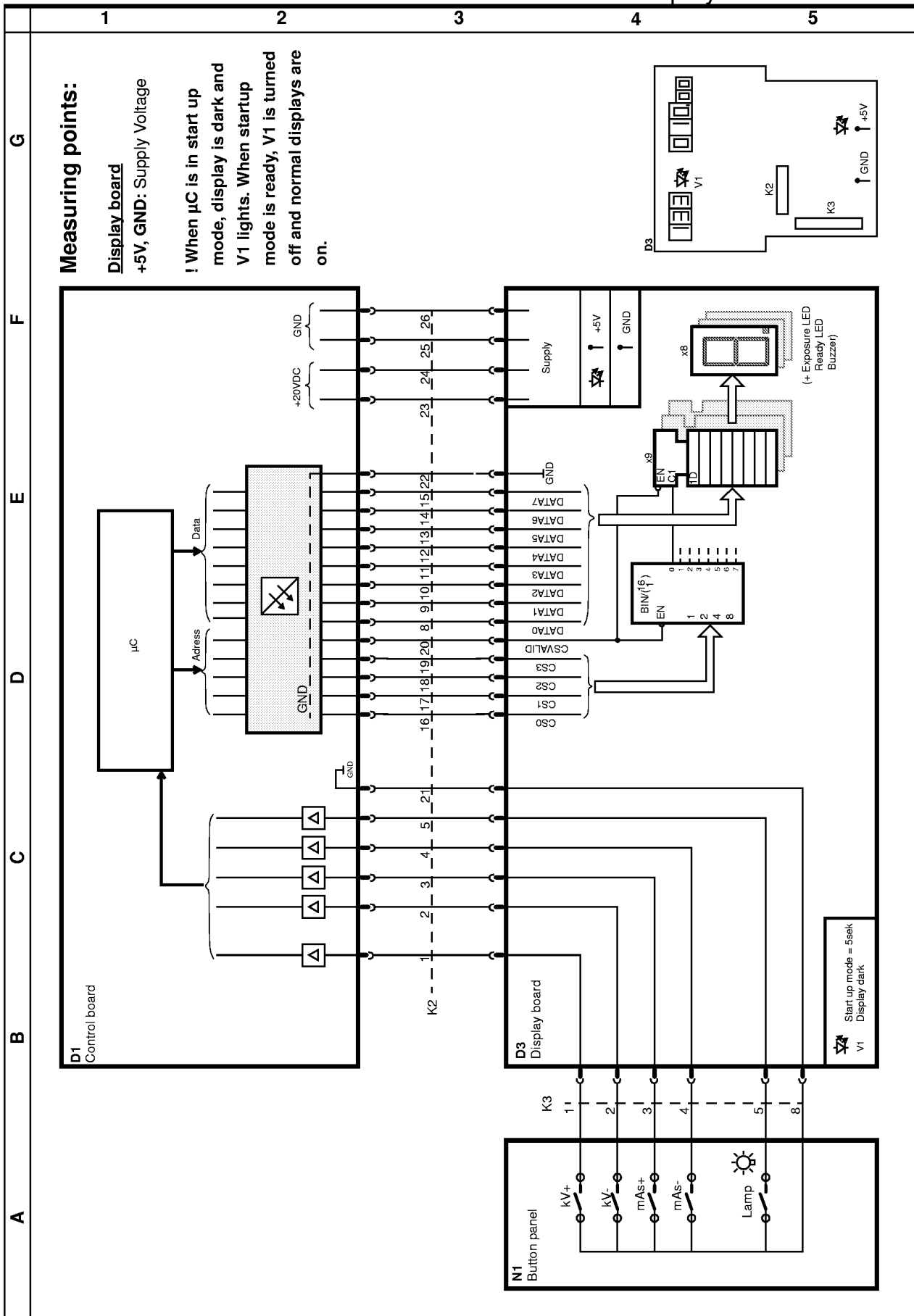
- 1) 100VDCRET and 60VDCRET mean the "GND" side of the specified supply voltage
- 2) Active low function



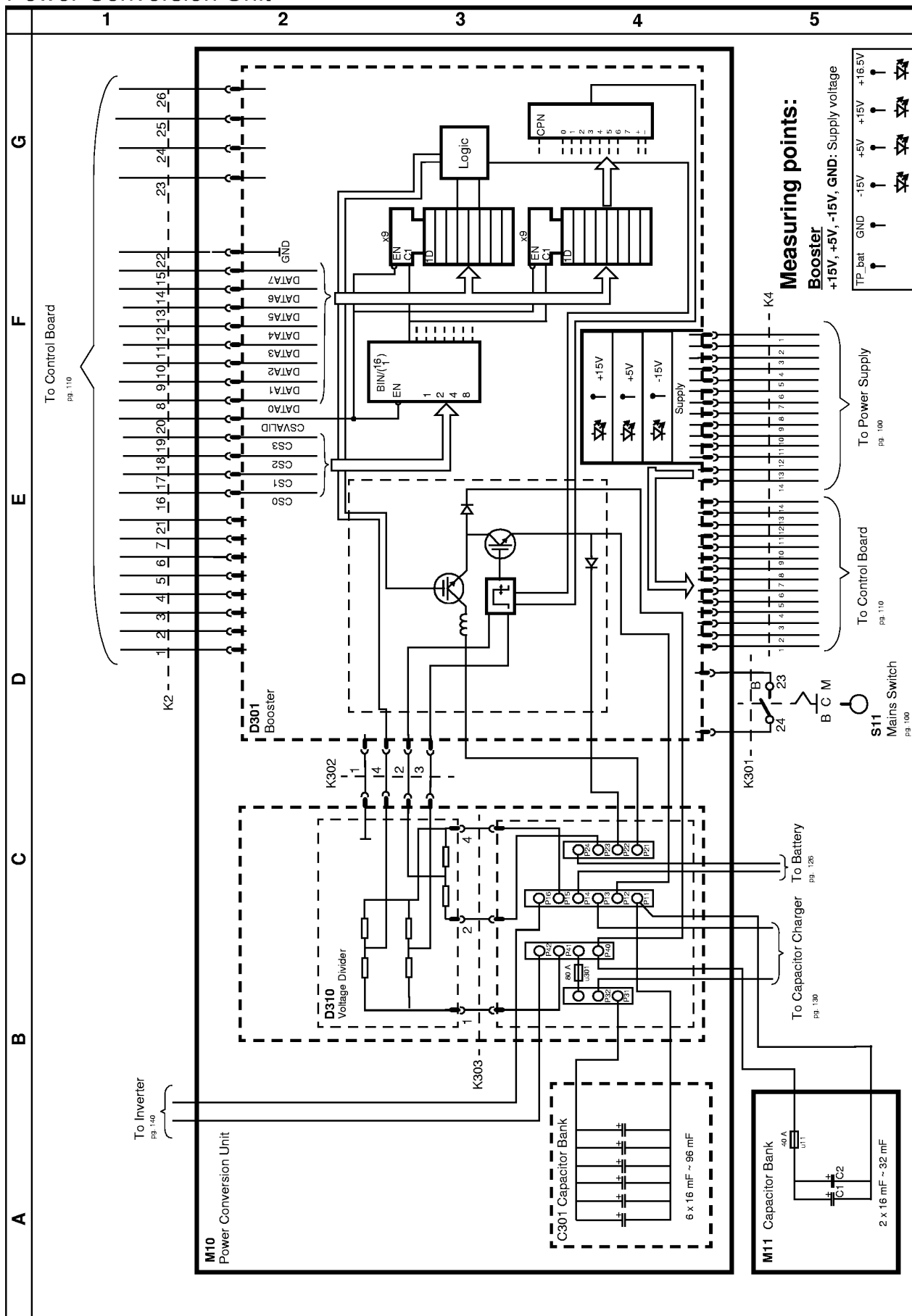
Control system

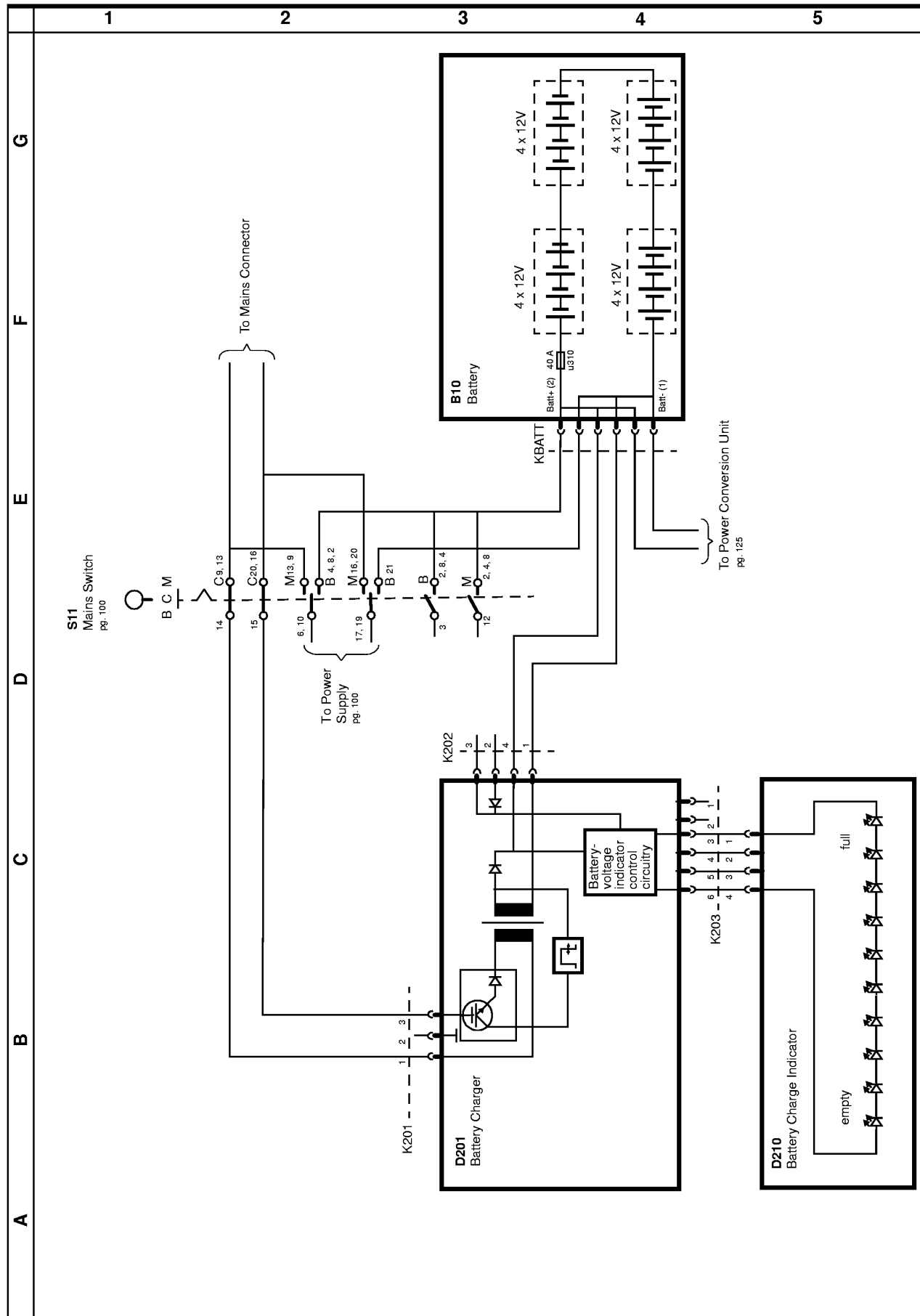


Display and user buttons

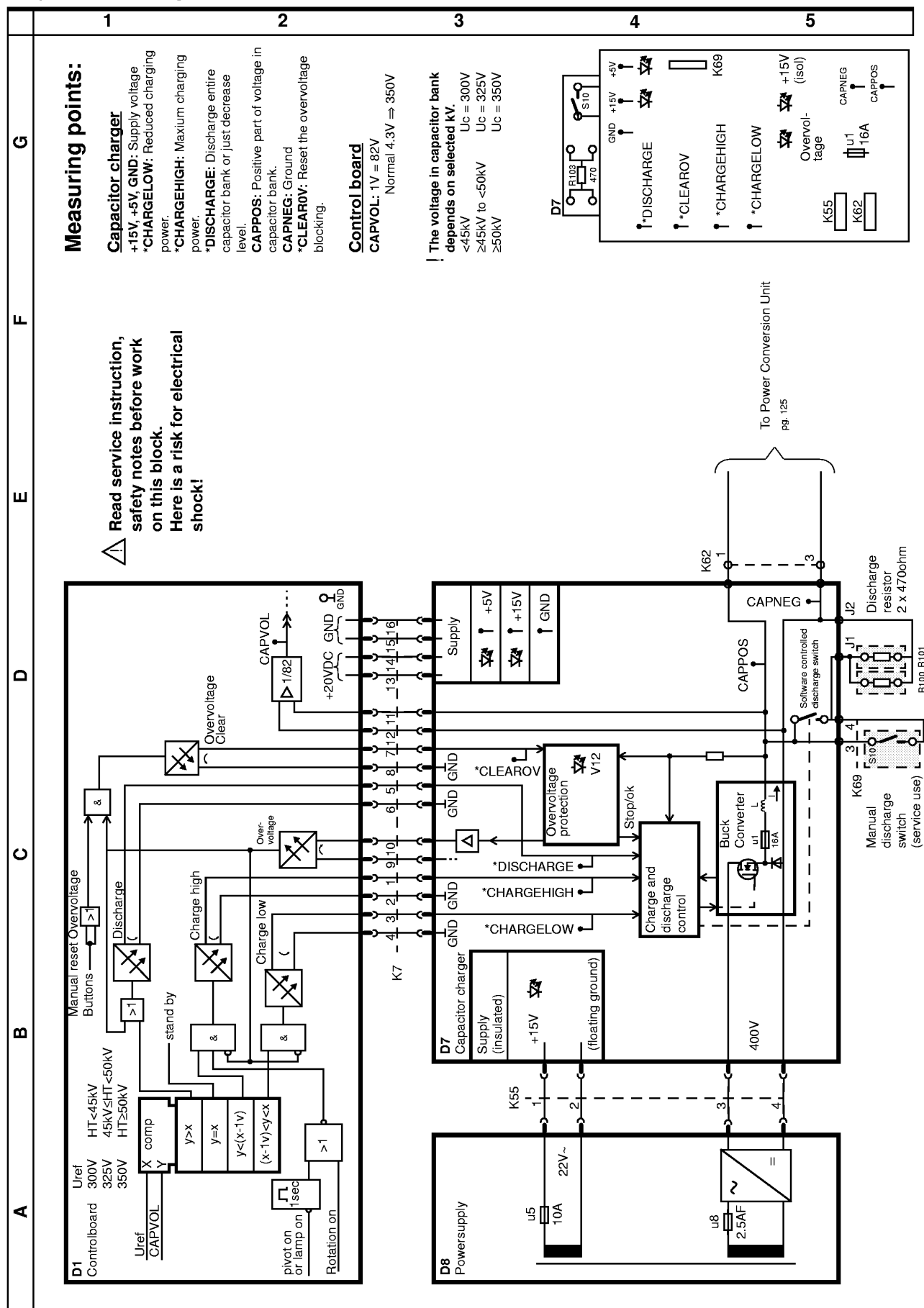


Power Conversion Unit





Capacitor charger



Measuring points:

Inverter board
+15V, +5V, GND: Supply voltages
INVA, INVB: Drive pulses U(V)
INVA, INVB: Drive pulses U(V)

Control board
HTNEG: -1V=-10kV negative part of high voltage
HTPOS: 1V=10kV positive part of high voltage
HTD: + or -1V/40kV high voltage asymmetry
HT: 1V=40kV tube voltage
HTPEAK: 1V=40kV peak value of high voltage
MAPOS: 1V=100mA

NOTE: The signal HT and MAPOS are described on page 141

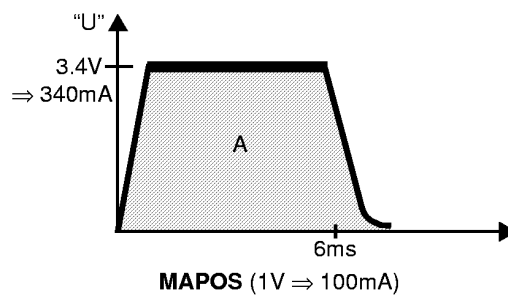
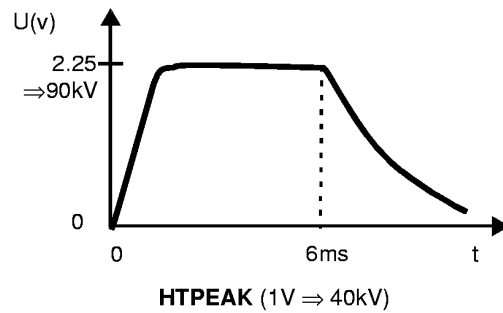
Temp Resistance

Temp	Resistance
20°C	58 kohm
30°C	38 kohm
40°C	26 kohm
50°C	18 kohm
60°C	12 kohm

XRAY TUBE

Pinout:

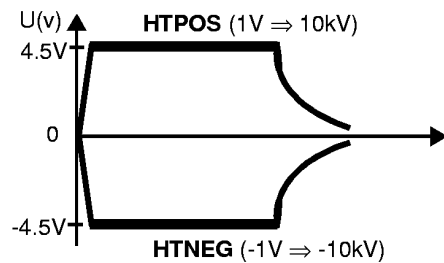
Pin	Signal
1	HT
2	HTD
3	HTNEG
4	HTPOS
5	MAPOS
6	GND
7	GND
8	GND
9	GND
10	GND
11	GND
12	GND
13	GND
14	GND
15	GND
16	GND
17	GND
18	GND
19	GND
20	GND
21	GND
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81	GND
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83	GND
84	GND
85	GND
86	GND
87	GND
88	GND
89	GND
90	GND
91	GND
92	GND
93	GND
94	GND
95	GND
96	GND
97	GND
98	GND
99	GND
100	GND

Example: Exposure results 90kV 2.0mAs measured on D1**Calculating mAs**

mAs = current x exposure time

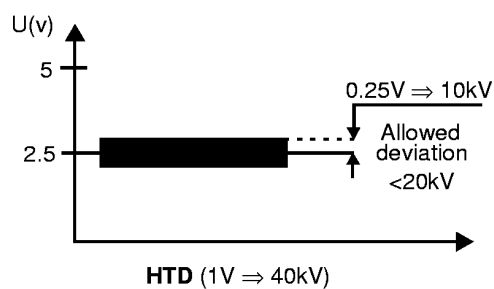
mAs = 340mA x 0.006s = 2.0mAs

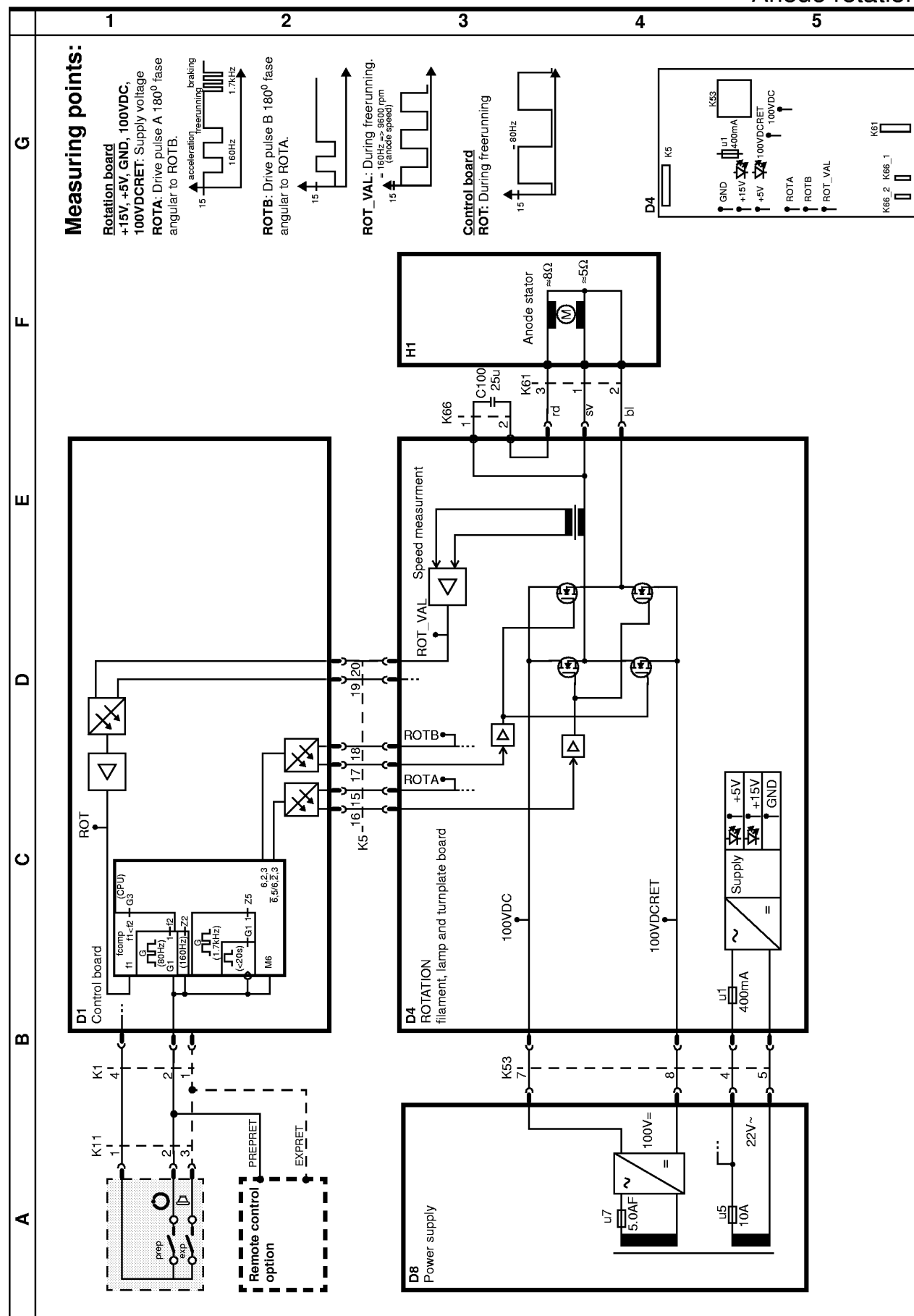
NOTE: The signal contains high frequency 20-40 kHz and can cause sampling problems (Aliasing effect)



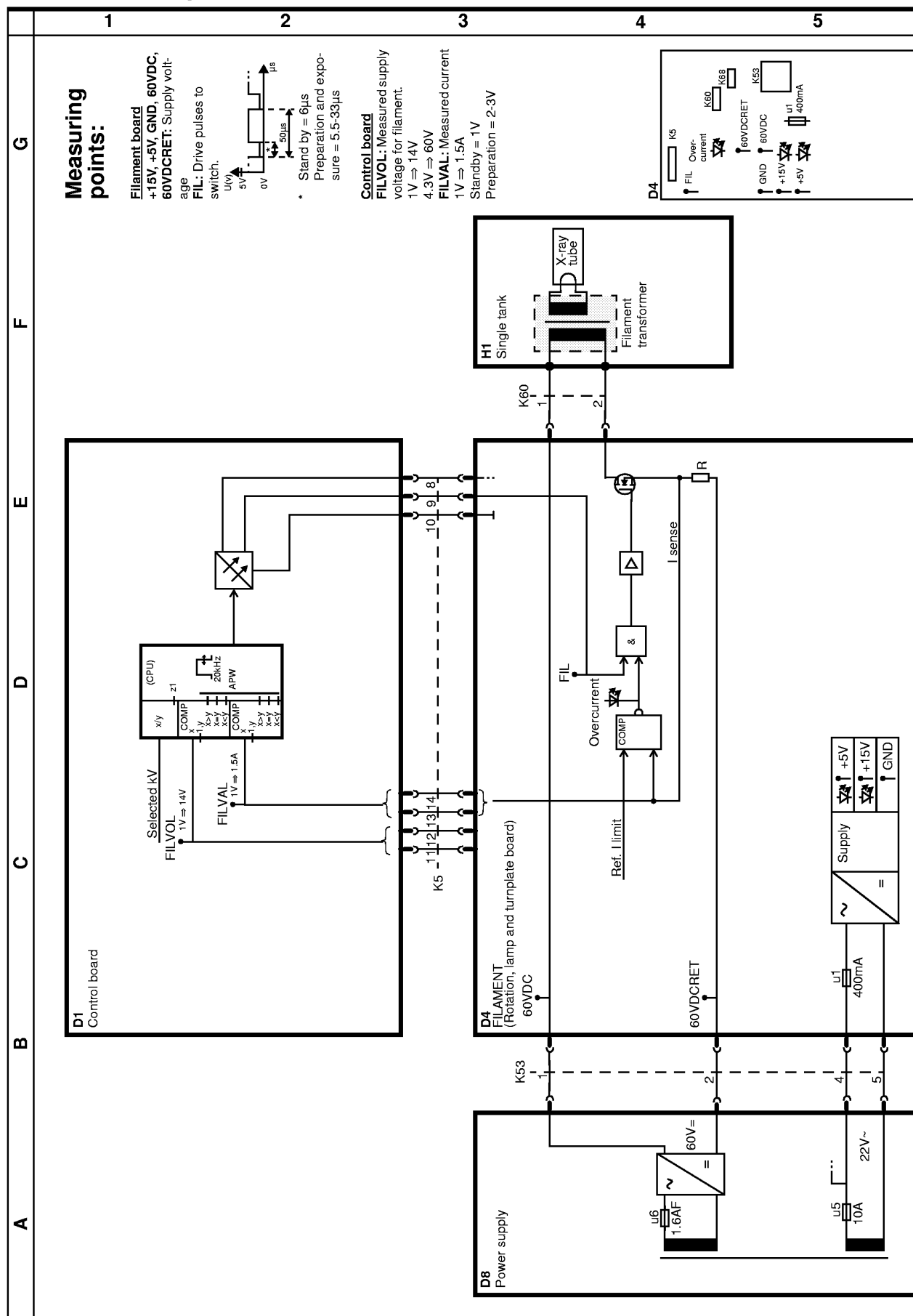
HTPOS-HTNEG = 4.5 - (-4.5) = 9V

9V ⇒ 90kV

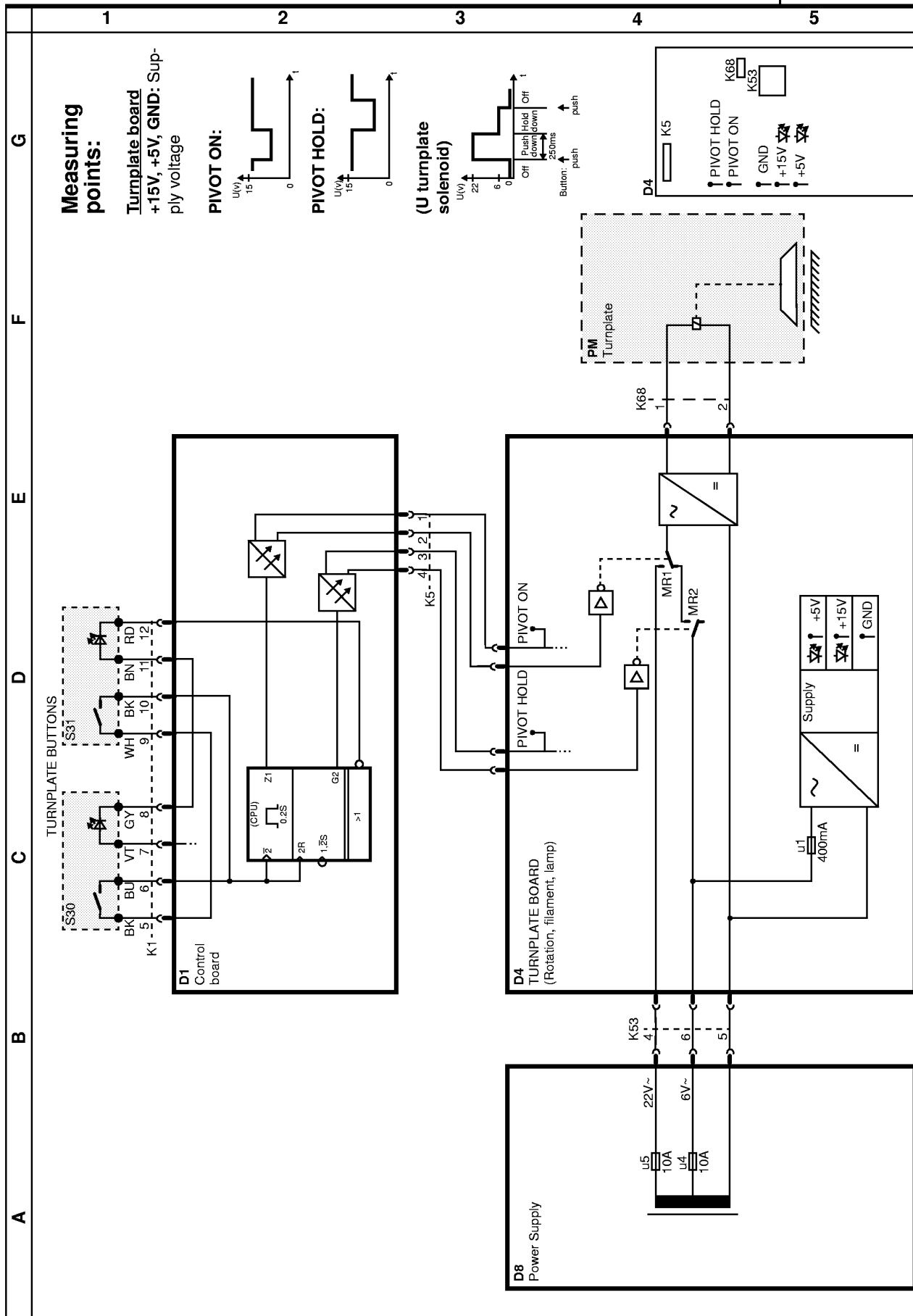




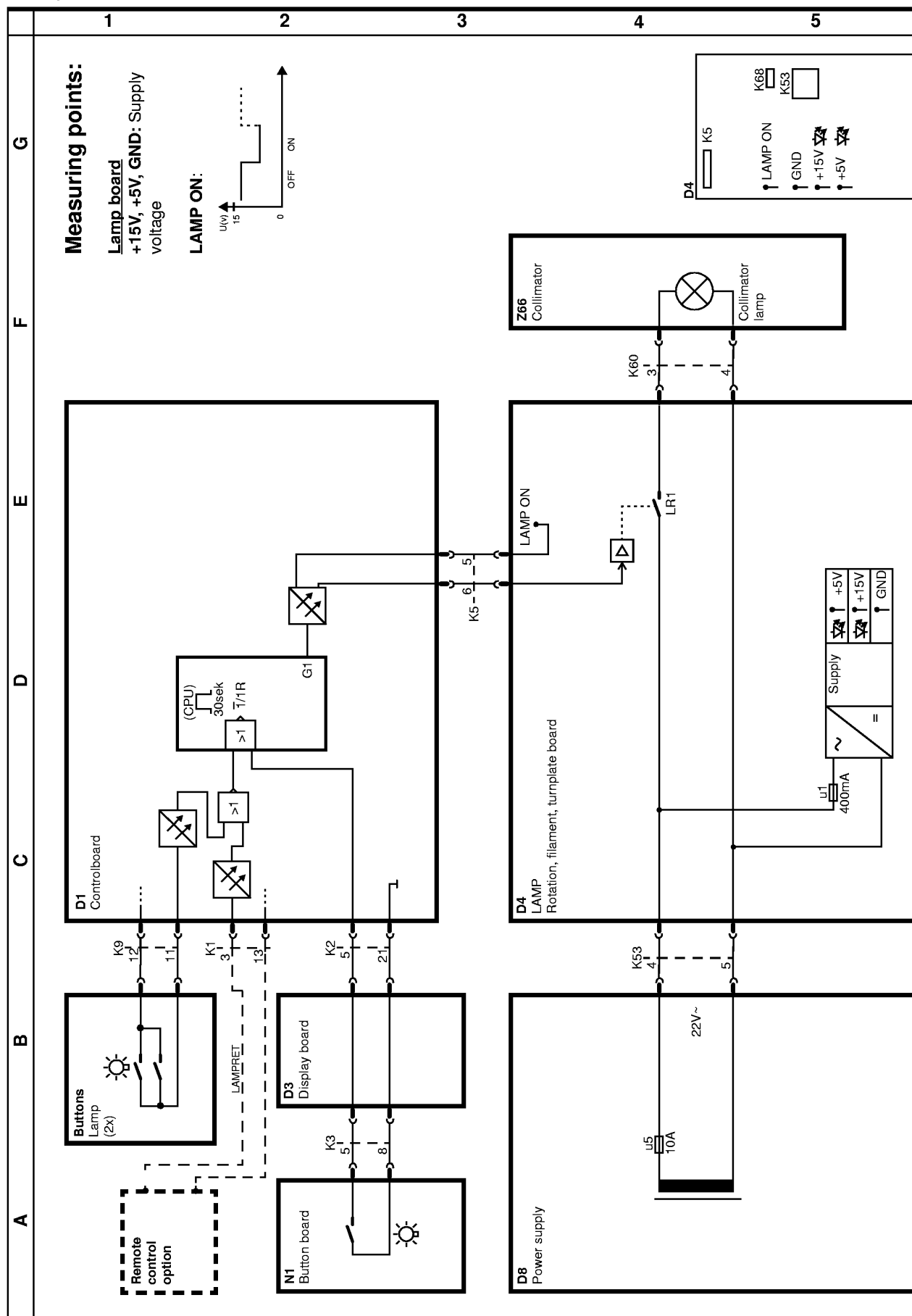
Filament heating

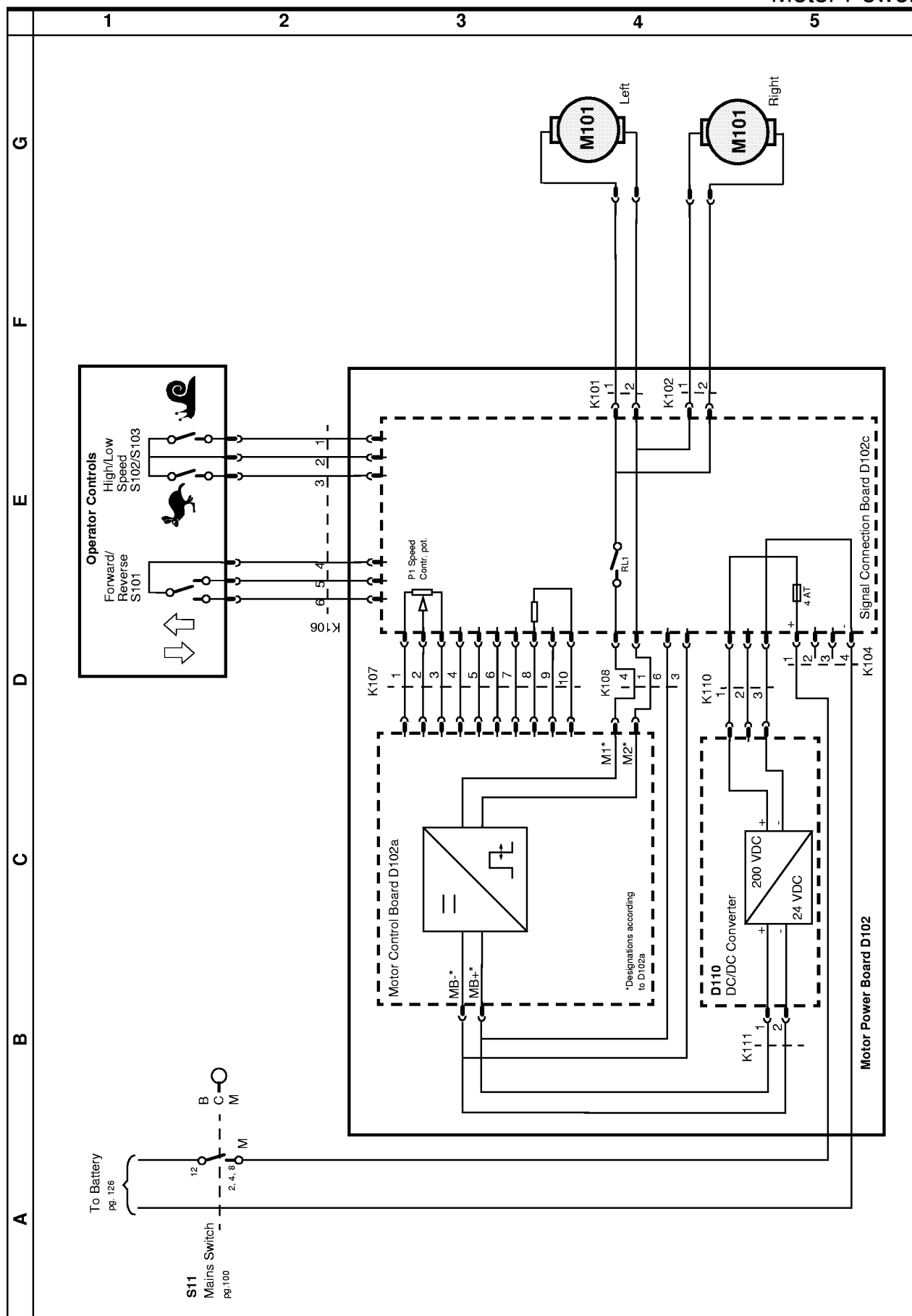


Turnplate control



Lamp control





DAP measuring system (Option)

